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ARI Research Note 90-134

Exploratory Models of Reenlistment Intentions from the 1985 DoD Survey of Enlisted Personnel

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Research Triangle Institute

for

Contracting Officer's Representative D. Bruce Beil

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Research Institute for the Behavioral and Social Sciences

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19. ABSTRACT (Continued)

The squared multiple correlation was .202 for the single model and .214 for the married model. For the single models; the following variables were not statistically significant: sex, location, satisfaction with environment for families, and satisfaction with the three family programs (i.e., youth/adolescent, childcare, and recreation). For the married model, nonsignificant variables were location, satisfaction with youth/adolescent program, and satisfaction with the childcare program.

For both single and married enlisted personnel, military job and career variables are important predictors of self-assessed probabilities of reenlisting. Satisfaction with the military environment as defined by satisfaction with personal freedom and the opportunity to serve one's country are also important predictors, although the effect is somewhat greater for married soldiers than for single ones. Although both single personnel and married personnel with children had higher self-assessed likelihoods of reenlistment than those with no children, the effect of children was greater for singles. For married personnel, satisfaction with the Army environment for families and satisfaction with recreation programs were significant predictors of reenlistment intentions. The effect of location on retention intention was not statistically significant in either model. KCYwords: Army 7 round; Family members; Reenlistment; Statistical data; Personnel retention. CRWJ.

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EXPLORATORY MODELS OF REENLISTMENT INTENTIONS FROM THE 1985 DOD SURVEY OF ENLISTED PERSONNEL

EXECUTIVE SUMMARY

Requirement:

To support The Army Family Action Plans (1984-1990) by developing exploratory models of reenlistment intentions as part of the Army Family Research Program (AFRP) and to determine the role that family factors play in the reenlistment decision.

Procedure:

Data from a sample of 14,362 Army enlisted personnel with more than 4 months of active duty who responded to the 1985 Survey of Enlisted Personnel were analyzed using a weighted least squares solution. The dependent variable for the regression modeling was the self-assessed likelihood of reenlisting. The 18 independent variables for the model were selected to represent four broad classes of variables expected to predict reenlistment intentions: individual and family factors, family program variables, military job and career variables, and military environment variables. The model was tested separately for 5,237 single personnel and for 9,125 married personnel.

Findings:

The squared multiple correlation was .202 for the single model and .214 for the married model. For the single models, the following variables were not statistically significant: sex, location, satisfaction with environment for families, and satisfaction with the three family programs (i.e., youth/adolescent, childcare, and recreation). For the married model, nonsignificant variables were location, satisfaction with youth/adolescent program, and satisfaction with the childcare program.

For both single and married enlisted personnel, military job and career variables are important predictors of self-assessed probabilities of reenlisting.

Satisfaction with the military environment as defined by satisfaction with personal freedom and the opportunity to serve one's country are also important predictors, although the effect is somewhat greater for married soldiers than for single ones.

Although both single personnel and married personnel with children had higher self-assessed likelihoods of reenlistment than those with no children, the effect of children was greater for singles.

For married personnel, satisfaction with the Army environment for families and satisfaction with recreation programs were significant predictors of reenlistment intentions.

The effect of location on retention intention was not statistically significant in either model.

Utilization of Findings:

The Army sponsor of the Army Family Research Program, the U.S. Army Community and Family Support Center (CFSC), reviewed an earlier draft of this report. Their comments indicate that the contents of this report will be useful in revising Army programs and policies.

EXPLORATORY MODELS OF REENLISTMENT INTENTIONS FROM THE 1985 DOD *URVEY OF ENLISTED PERSONNEL

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EXPLORATORY MODELS OF REENLISTMENT INTENTIONS FROM THE 1985 DOD SURVEY OF ENLISTED PERSONNEL

Introduction

A continuing concern to Army policymakers and program managers is the retention of qualified personnel. The Army has been highly successful in recent years in meeting recruiting goals and manpower requirements, but emerging and increasing opportunities in the civilian labor market, coupled with a shrinking pool of age-eligible youth, pose new and dynamic challenges that the Army must address to avoid undesirable turnover of personnel. A substantial body of research now exists regarding retention (Etheridge, 1989), but rarely have any one of the research efforts spanned more than a single discipline. Much more programmatic research is needed that takes a multidisciplinary perspective in developing comprehensive retention models. An important first step in such an effort is the development of exploratory models of retention intentions and behavior.

This report describes exploratory modeling of reenlistment intentions for enlisted Army personnel as part of the Army Family Research Program (AFRP). The AFRP is a long-range program of integrated research activities designed to assist Army personnel in designing future policies and programs that both strengthen families and contribute to the retention and readiness of qualified personnel. Army records from the 1985 DoD Survey of Enlisted Personnel (McCalla, Rakoff, Doering, & Mahoney, 1986) are the source of data for the analyses.

The results from these analyses were reported in an AFRP briefing to U.S. Army Europe (USAREUR) commanders by the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) in April 1987. This technical report is intended for a professional audience and provides the analytical support for the findings prepared for the USAREUR briefing; the briefing slides are incorporated into the presentation of results.

In the next section the 1985 DoD Survey of Enlisted Personnel is described. The third section develops the analytical approach and describes the variables used in the analysis. The regression results are presented in the fourth section. The final section summarizes the results of the investigation and identifies avenues of further research.

Data

The population from which the 1985 DoD Survey was sampled consists of active—duty enlisted personnel from all of military services who were stationed in the United States or overseas as of September 30, 1984. Enlisted accessions with less than four months of service were excluded. The sample selected for the Survey of Enlisted Personnel consisted of 34,601 Army erlisted personnel. Data collection began in January 1985 and ended in June 1985.

The 1985 DoD Survey of Enlisted Personnel consisted of nine major sections. Section I, Military Information, asked for military background information

such as paygrade and enlistment term. Section II, Present and Past Location, collected information on permanent change of station (PCS) moves, housing, and characteristics of the current location. Section III, Reenlistment/Career Intent, asked about the likelihood of reenlisting under various conditions and plans after leaving the military. Section IV, Individual and Family Characteristics, asked for basic demographic information. Section V, Dependents, collected information on spouse accompaniment, number of children, and child care arrangements. Section VI, Military Compensation, Benefits, Programs, asked about benefits and special pays received by the member and member satisfaction with family programs and services. Section VII, Civilian Labor Force Experience, collected information on volunteer work, second jobs, and the spouse's employment status. Section VIII, Family Resources, focused on all sources of income received by the household. Section IX, Military Life, asked the member to indicate levels of satisfaction with various aspects of military life.

Analytical Approach and Variable Description

This section briefly describes the methodology used for the analyses. The modeling approach is first discussed followed by a description of the variables included in the model and the rationale for their inclusion.

Analytical Approach

The analytical technique used for the exploratory analyses was regression modeling using a weighted least squares procedure. Exploratory regression analyses were performed on enlisted personnel in the first three enlistment terms. Preliminary analyses indicated that enlistment intentions should be modeled separately for married and single soldiers. Attention was given to modeling each enlistment term separately, but preliminary regression analyses indicated that regression parameters across enlistment terms did not vary enough to warrant this approach. Consequently, only married and single models were examined. The sample sizes for the single and married enlisted personnel were 5,237 and 9,125, respectively.

Variable Definitions

The dependent variable for the regression modeling was the self-assessed likelihood of reenlisting which ranged from 0 (no chance in 10 of reenlisting) to 1 (10 chances in 10 of reenlisting) with intermediate scale values in increments of .1 (e.g., .2 = 2 chances in 10). Independent variables for the models were selected to represent four broad classes of variables expected to predict reenlistment intentions:

- individual and family factors;
- family program variables;
- military job and career variables; and
- military environment variables

The variables used in the analyses are presented in Figure 1 and described in detail in this section.

VARIABLES USED IN THE ANALYSIS

- INDIVIDUAL: AND FAMILY VARIABLES CHILDREN ENVIRONMENT FOR FAMILIES RACE/ETHNICITY SEX
- FAMILY PROGRAM VARIABLES
 YOUTH/ADOLESCENT PROGRAM
 CHILD CARE PROGRAM
 RECREATION PROGRAM
- MILITARY JOB AND CAREER VARIABLES ENLISTMENT TERM PAYGRADE CURRENT JOB SATISFACTION PROMOTION OPPORTUNITIES
- MILITARY ENVIRONMENT VARIABLES
 PERSONAL FREEDOM
 OPPORTUNITY TO SERVE COUNTRY
 LOCATION



Individual and family factors were: presence of children, a categorical variable with two categories (no children and one or more children); satisfaction with environment for families, a categorical variable with three categories (satisfied, neither satisfied nor dissatisfied, and dissatisfied); race/ethnicity, a categorical variable with four categories (Black, Hispanic, White, and other); and sex (male and female).

Family program variables reflected satisfaction with youth/adolescent programs, child care programs, and recreation programs. Each of these were categorical variables with three categories: had no knowledge of or experience with the program; satisfied with the program; and dissatisfied with the program.

Military job and career variables were: enlistment term, a categorical variable with three categories (first, second, and third); paygrade, a categorical variable with three categories (E1-E4, E5-E6, and E7-E9); satisfaction with current job; and satisfaction with promotion opportunities. The latter two satisfaction variables were categorical with three categories each (satisfied, neither satisfied nor dissatisfied, and dissatisfied).

Military environment variables were: satisfaction with personal freedom and satisfaction with the opportunity to serve one's country, each was a categorical variable with three categories (satisfied, reither satisfied nor dissatisfied, and dissatisfied); and location, a categorical variable with three categories (CONUS, Europe, and other COONUS).

Variable Selection Criteria

The three family program variables were selected on the basis of respondents' relatively high rates of knowledge of or experience with the programs, compared to other family programs. In addition, their effects on retention had been previously explored using the same data base but for Air Force personnel (Systems Research and Applications Corporation, 1987).

The variables reflecting the job-related characteristics of the enlisted personnel (e.g., paygrade, enlistment term, etc.) were included to control for characteristics which are expected to increase with retention intentions.

The remaining military environment and job satisfaction variables were selected from a larger set of eighteen satisfaction variables on the basis of a two stage preliminary analysis. The first stage involved a principal component analysis of the correlation matrix of the eighteen satisfaction variables (Question 105 in Appendix A). In the second stage a small subset of satisfaction variables that represented the larger variance principal components and, at the same time, were predictive of reenlistment intentions were selected.

The questionnaire item which measured the enlisted person's overall satisfaction with the military as a way of life (Question 106 in Appendix A) itself correlated .50 with reenlistment intentions. The squared multiple correlation coefficient (\mathbb{R}^2) of .25 for this single satisfaction measure, as will be seen, was larger than the \mathbb{R}^2 for each of the retention models even

when using the relatively large set of independent variables described above. However, the intent of the modeling procedure was not to maximize the R²s, but to include a broad range of conceptually appealing variables that might increase our understanding of the reenlistment decision. In particular, knowing the components of satisfaction that relate to reenlistment intentions is more informative than the general finding that people stay in the Army because overall they are satisfied with it. If we know the components of satisfaction that relate to retention, then we will be in a better position to recommend policies and practices that might increase these important satisfaction components. Hopefully, increasing satisfaction of these components will lead subsequently to higher reenlistment probabilities.

Three other types of military environment variables were explored: problems with PCS moves (Question 17), feelings about location (Question 19) and social problems (Question 20). These variables were examined separately with respect to their correlational structure through principal components analysis and, also, with respect to their correlations with reenlistment intentions. These questions are presented in Appendix A. Question 17 contained fifteen items on a four point scale which measured perceived problems ranging from a serious problem (1) to not a problem (4) with respect to the respondents' last PCS (permanent change of station) move. Ouestion 19 contained eighteen items which assessed the respondents' feelings about their current location. The items were evaluated on a five point scale ranging from excellent (1) to very poor (5). Question 20 contained nine items measuring perceived problems on the same four point scale of seriousness used in question 17. Social problems such as drug use, child abuse, crime, and racial tension at their current location were assessed. The rotated principal components were conceptually appealing for each of the three sets of items, but, in each analysis, the items with large weights on the larger principal components had extremely small, albeit significant, correlations with reenlistment intentions. Consequently, they were not included in the exploratory models.

Results

The model parameters for the single soldier model and for the married soldier model of reenlistment intentions were estimated by a weighted least squares procedure. The weights were the inverse of the probability of the respondent being selected into the sample. For details on the sample design, see IaVange, McCalla, Gabel, Rakoff, Doering, and Mahoney (1986). The squared multiple correlation was .202 for the single model and .214 for the married model. Results of the two regression models are summarized in Table 1. For each categorical variable, one category was excluded such that the estimated regression parameters associated with each of the remaining categories reflects a contrast with the excluded category. The excluded category is indicated by a zero regression parameter. Any estimated regression parameter associated with a particular level of a categorical variable should be interpreted as the difference in self-assessed reenlistment probability between that specific level and the excluded level adjusted for the remaining variables in the model.

Table 1
Single and Married Retention Models

Variables	Single Model (R ² =.202) Parameter Estimates	Married Model (R ² =.214) Parameter Estimates
Sex		
Female Male	.020 .000	068*** .000
Race/Ethnicity		
Hispanic White Other Black	105*** 134*** 095* .000	047* 059*** 091*** .000
Pay Grade		
E1-E4 E5-E6 E7-E9	.000 .112*** .148*	.000 .113*** .167***
Enlistment Term		
First Second Third	.000 .064*** .196***	.000 .050* .129***
Children		
Children No children	.070** .000	.036* .000
Location		
Europe Other Overseas (OCONUS) Continental US	.009 .037 .000	.021 012 .000
Personal Freedom		
Satisfied Neither satisfied nor dissatisfied Dissatisfied	.110*** .093*** .000	.139*** .103*** .000
Environment for Families		
Satisfied Neither satisfied nor dissatisfied Dissatisfied	.014 .006 .000	.048** .038* .000

Table 1 (Continued)
Single and Married Retention Models

Variables	Single Model (R2=.202) Parameter Estimates	Married Model (R2=.214) Parameter Estimates
Opportunity to Serve Country		
Satisfied Neither satisfied nor dissatisfied Dissatisfied	.109*** .017 .000	.168*** .064* .000
Current Job Satisfaction		
Satisfied Neither satisfied nor dissatisfied Dissatisfied	.083*** .056* .000	.075*** .043* .000
Promotion Opportunities		
Satisfied Neither satisfied nor dissatisfied Dissatisfied	.028a 017 .000	.029b 005 .000
Youth/Adolescent Program		
Satisfied No knowledge/experience Not satisfied	015 .000 .094	.032 .000 .024
Child Care Program		
Satisfied No knowledge/experience Not satisfied	.028 .000 036	018 .000 .016
Recreation Program		
Satisfied No knowledge/experience Not satisfied	.023 .000 .000	.044* .000 .022

a The estimated parameters were significantly different (p < .05) from zero as a set, but no individual parameter was significantly different from zero at the .05 level.

b Significant at .05 level.

^{*} Significant at .01 level.

^{**} Significant at .001 level.

For each of the models, certain variables were not statistically significant in the prediction of the criterion variable. For the single model, these variables included sex, location, satisfaction with environment for families and satisfaction with the three family programs, i.e., youth/adolescent, child care, and recreation. For the married model, nonsignificant variables were location, satisfaction with youth/adolescent program and satisfaction with the child care program. Variables contributing significantly to model prediction are discussed below.

Individual and Family Variables

In the single model, whites, Hispanics and "Others" had significantly lower reenlistment intentions than did Blacks. The self-assessed retention probabilities for these three groups, contrasted with Blacks, were from .10 to .13 lower. For the married model, somewhat smaller race/ethnicity effects appeared, with retention probabilities ranging from .05 to .10 lower than for Blacks.

Married females had a lower adjusted self-assessed probability of reenlisting than married males (-.07, p : .001). For married respondents, the effect of having children versus no children (.04; p < .001) was somewhat smaller than for single personnel (.07; p < .001). This comparison is graphically depicted in Figure 2. One explanation for this result is that, although the number of benefits that a family receives from the military is expected to increase with family size, single parents may receive more benefits from the Army than couples with children.

Satisfaction with the Army's environment for families was only significant in the model for married respondents. As depicted in Figure 3, the effect of being satisfied versus dissatisfied with respect to this variable was .05 (p < .001). Even being neither satisfied nor dissatisfied, compared with being dissatisfied, yielded a higher (.04; p < .01) retention probability. (The .02 difference in retention probabilities shown for the single model was not statistically significant at conventional levels and is shown in Figure 3 for comparison purposes only.)

Family Program Variables

As mentioned previously, satisfaction with the Army's family programs in general was not significant in explaining retention intentions in either the single or married model. The one exception was for married respondents, where the effect of being satisfied with a recreational program versus having no knowledge or experience with it was $.04 \ (p < .01)$.

Military Job and Career Variables

Enlistment term and pay grade were significant contributors to both models. The effect of pay grade was highly significant for singles with a difference in adjusted self-assessed probabilities of .15 (p < .01) between the highest pay

HOW DO FAMILY - RELATED FACTORS AFFECT REENLISTMENT?

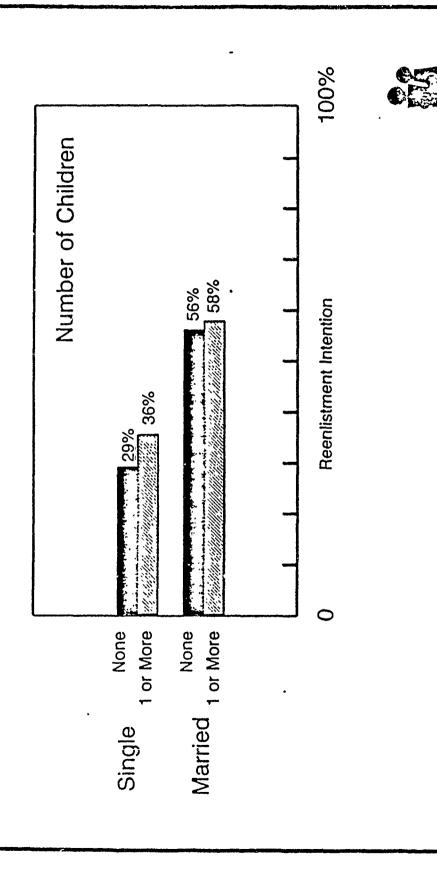


FIGURE 2

HOW DO FAMILY - RELATED FACTORS AFFECT REENLISTMENT?

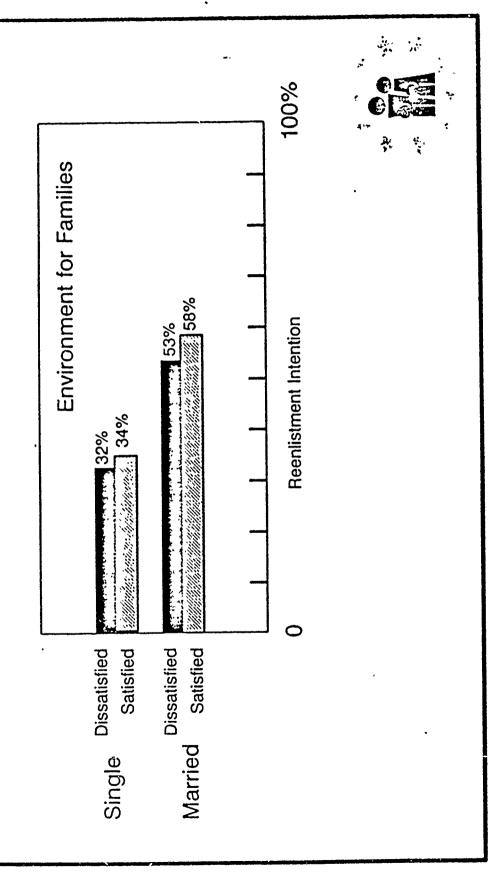


FIGURE 3

grade classification (E7 - E9) and the lowest (E1 - E4), and a difference of .11 (p < .0001) between the middle (E5 - £6) and lowest classifications. In the married model, corresponding differences in self-assessed probabilities were .17 and .11 (both p < .0001). Pay grade effects are illustrated in Figure 4.

The difference in the adjusted self-assessed probabilities of reenlistment between single respondents in their third term and those in their first term was .20 (p < .0001). For singles in their second versus their first term, this difference was smaller (.06) although still highly significant (p < .0001). Among married respondents, the effect of being in the third versus the first enlistment term was .13 (p < .0001), and was only .05 (p < .01) for the second versus the first term. Figure 5 graphs these differences. The inclusion of enlistment term and paygrade controls for selectivity bias in the following way. Retention intentions are expected to increase with an increase in either one of these variables because, after the first enlistment term, members who have a "taste" for military life choose to remain in the military whereas those who do not, leave. Hence, the individual remaining in the service in higher paygrades and enlistment terms are expected to have higher retention probabilities than those in lower paygrades and enlistment terms. In both models the excluded category is the lowest paygrade or enlistment term. Hence the results confirm our expectations that soldiers in higher paygrades and terms of enlistment are likely to have higher retention intentions.

In the single model, the effect of being satisfied versus dissatisfied with one's current job was .08 (p < .0001), while, as seen in Figure 6, the effect was marginally smaller in the married model (.07; p < .0001). Being satisfied versus dissatisfied with regard to promotion opportunities resulted in higher self-assessed probabilities of retention among both single and married respondents (.03 for both; married p < .05). This comparison is illustrated in Figure 7. The results indicate that the effects of job satisfaction and satisfaction with the promotional aspects of the military career on member retention intentions are virtually the same for married and single soldiers.

Military Environment Variables

For both the single and married models, being satisfied versus dissatisfied with one's personal freedom and the opportunity to serve one's country had highly significant (p < .0001) effects on self-assessed retention probabilities. The effect of satisfaction with personal freedom was .11 for singles and .14 for marrieds (Figure 8). Satisfaction versus dissatisfaction with the opportunity to serve one's country resulted in adjusted differences in probability of .11 in the singles model and .17 in the married model (Figure 9). Both of these military environment variables can be interpreted as non-pecuniary benefits to being in the military which contribute to retention intentions. These results show that non-pecuniary factors are somewhat more important in determining the retention intentions of married soldiers than of singles.

FIGURE 4

FIGURE 5

HOW DOES MILITARY JOB AFFECT REENLISTMENT?

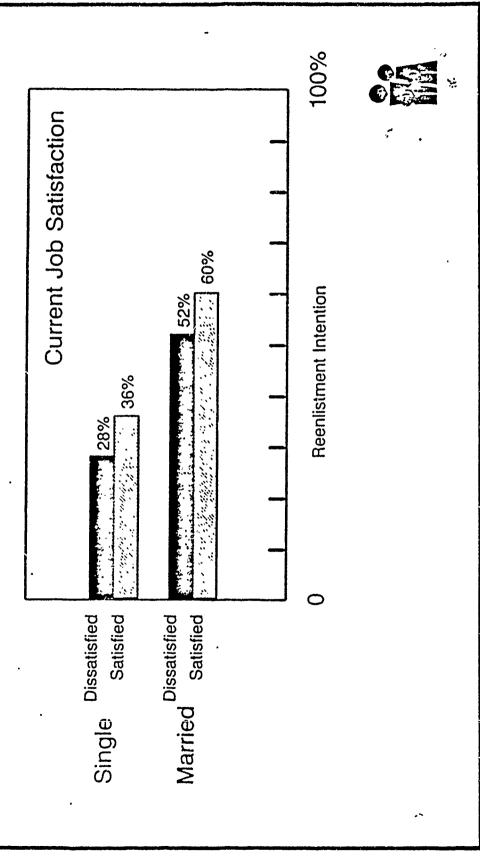


FIGURE 6

HOW DO CAREER FACTORS AFFECT REENLISTMENT?

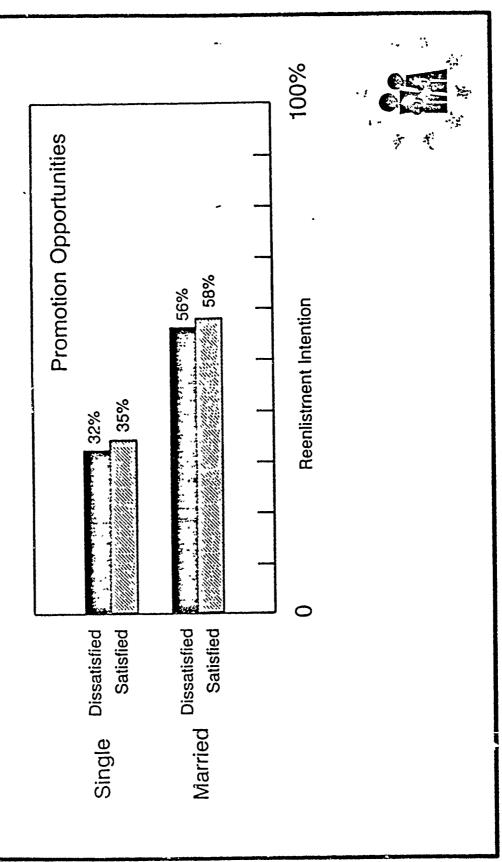


FIGURE 7

HOW DOES MILITARY ENVIRONMENT AFFECT REENLISTMENT?

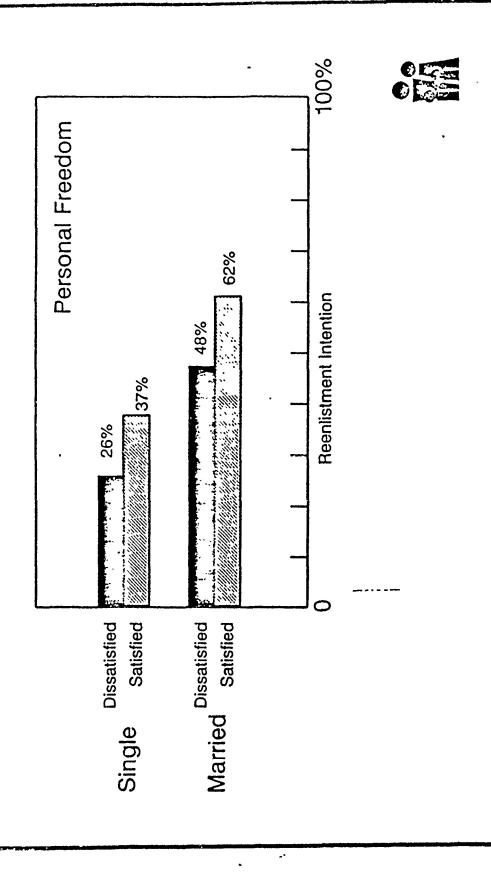
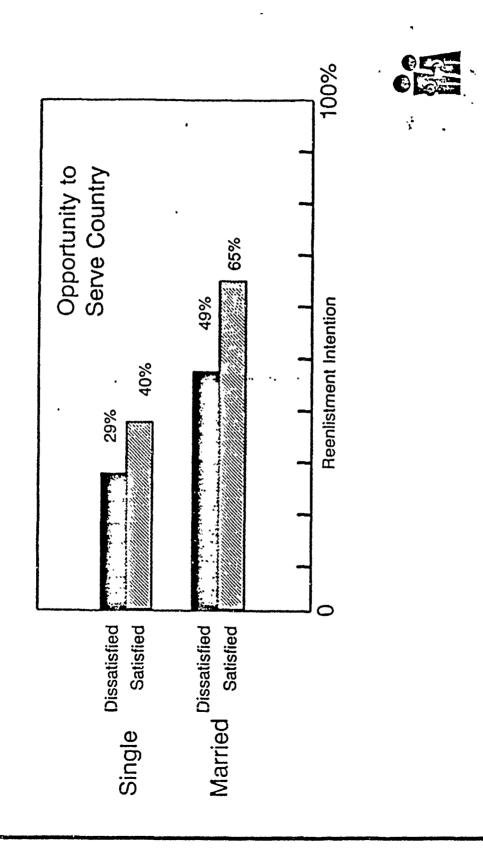


FIGURE 3

HOW DOES MILITARY ENVIRONMENT AFFECT REENLISTMENT?



, ,

FIGURE 9

Summary and Need for Further Research

For both single and married enlisted personnel, military job and career variables are important predictors of self assessed probabilities of reenlisting. Satisfaction with the military environment as defined by satisfaction with personal freedom and the opportunity to serve one's country are also important predictors although the effect is somewhat greater for married soldiers than for single ones. With respect to family variables, although both single personnel and married personnel with children had higher self-assessed likelihoods of reenlistment than those with no children, the effect of children was greater for singles. For married personnel, satisfaction with the Army environment for families and satisfaction with recreation programs were significant predictors of reenlistment intentions. The effect of location on retention intention was not statistically significant in either model. Previous preliminary analyses indicated that perceived problems with PCS moves and feelings about the local environment had little relationship to reenlistment intentions.

This report examined the reenlistment intentions of single and married enlisted personnel during their first three terms in the U.S. Army. Because it was exploratory modeling only main effects models were examined. Further research should test for interaction effects using more complex models.

In general, we found that similar factors are statistically significant in determining the reenlistment intentions of the two groups. In the interest of comparing these two groups we used the same model specification and were not able to include spouse-related variables in the analysis because, by definition, there are no spouses for the "single" group. Clearly investigation of spouse issues is an avenue for further research. For example, a relationship between spouse employment status and retention intentions of married personnel is suggested in the White Paper 1983: The Army Family (Chief of Staff, U.S. Army, 1983) and in The Army Family Action Plan I (Office of the Deputy Chief of Staff, U.S. 1984), but the link is not well established. Considerable evidence does indicate, however, that spouse support is a significant factor in the member's decision to reenlist but more information is needed about the effects, the direction, and the intensity of spouse support and the precursors that build support. These and other relationships with member retention intentions will be explored in future research.

¹Satisfaction with youth/adolescent programs and child care programs was not statistically significant in either model.

References

- Chief of Staff, U.S. Army. (1983). White paper 1983: The Army Family. Washington, DC: Department of the Army.
- Etheridge, R. M. (1989). <u>Family factors affecting retention: A review of the literature</u> (Research Report 1511). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences. (AD A210 506)
- Office of the Deputy Chief of Staff for Personnel, U.S. Army. (1984). The Army family action plan I. Washington, DC: Author.
- LaVange, L. M., McCalla, M. E., Gabel, T. J., Rakoff, S. H., Doering, Z. D., & Mahoney, B. S. (1986). <u>Description of officers and enlisted Personnel in the U.S Armed Forces: 1985, Supplementary tabulations from the 1985 DoD survey of officer and enlisted personnel</u>. Arlington, VA: Defense Manpower Data Center.
- McCalla, M. E., Rakoff, S. H., Doering, Z. D., & Mahoney, B. S. (1986).

 <u>Description of officers and enlisted Personnel in U.S. Armed Forces: 1985, A report based on the 1985 DoD survey of officers and enlisted personnel.</u>

 Arlington, VA: Defense Manpower Data Center.
- Systems Research and Applications Corporation. (1987). <u>Linkage between Air</u>
 <u>Force MWR programs and personnel retention and readiness: A summary of key findings</u>. Arlington, VA: Systems Research and Applications Corporation.

Appendix Λ Questionnaire Items

Question 17

17. THINK ABOUT YOUR PCS MOVE TO YOUR CURRENT PERMANENT POST, BASE OR DUTY STATION. Answer even if this is your first assignment.

For each item below, mark if it was:	Serious Problem	Somewhat of a Problem	Slight Problem	Not a Problem	Not Applicable	Don't Know
Adjusting to a higher cost of living	0	0	0	0	0	0
Moving and setting up a new household	Ċ	0	0	. 0	C	<i>:</i> 0
Temporary lodging expenses	0	0	Ol	0.	0	0
Costs of setting up new residence, e.g., curtains, carpeting, paint	C	C	0	C	c	0
Transportation costs-incurred during move	0	0	0	0	0	. 0
Finding off-duty employment for yourself	ت	C	O	٥	C	. 0
Finding civilian employment for your spous or dependents	• 0	0	0	0	0	0
Continuing your education	0	0	0	0	C	0
Continuing spouse/dependent education	0	0	0	0	0	0
Transferability of college credits	င	0	0	0	C	0
Finding permanent housing	0	0	0	0	0	0
Finding shopping areas, recreational facilities, etc.	ن	C	0	Ö	د	٥
Children adjusting to new environment	0	0	0	0	0	0.
Spouse adjusting to new environment	Ć.	C	0	0	-	ن
Adjusting yourself to new environment	0	0	0	0	O	0

19. THE NEXT QUESTION IS ABOUT YOUR FEELINGS ABOUT THE LOCATION WHERE YOU LIVE NOW.
If you live on base, answer for that base, if you live off-base, answer for that community.

PLEASE MARK EACH ITEM BELOW AS:	Excellent	Good	Fair	Poor	Very Poor	Does Not Apply	Don't Know
CHARACTERISTICS OF CURRENT LOCA	TION						
Climate	ပ	0	0	Ç.	Ö	¢.	C
Distance to population centers	•	•	•		-		•
Family's ability to handle cost						_	_
of living	0	O	O	Ċ	Ç	C	0
Availability of military housing		• •	• •	•	. ~	• •	• •
Ouality of military housing	0	O	0	C)	0	Ö	O
Availability of civilian nousing	• •	•			••.	•	,
Availability of goods and services at the post, base							
or duty station	O	0	.	C	O	O	0
Recreational facilities	•• •	• •	•		••,	•	• •
Attitudes of local residents toward military familles	0	0	0	0	0	0	0
Availability of Federal							
employment for spouse or dependents	Ö	٠,	•	-,	••.	·~.	1
Availability of other civilian							
employment for spouse or							
dependents	0	C ⁱ	0	C	0	ဂ	0
Quality of schools for							
dependents	ن.					•	J.
Availability of medical care for you	0	0	0	0	0	٥	0
Quality of medical care for you	O	5	5	: ,•	$\hat{}$	O	ာ
Availability of medical				•			
care for apouse or	_	_	_		_	_	_
dependents	C	0	C'	Q	C	0	0
Ouality of medical care for	_		•		_		
spouse or dependents	•	ن .	:		ٽ	.:	٠,
Cuality of environment for children	0	0	O	0	0	0	0
	O	Ċ.	J	`~•'	J	O	0
Availability of Family Service Center/ Family Support Center/							
Army Community Service	Ф	•.	7.		ت		.:
) Journaling derrice		•	•	•	•••		••

20. HOW MUCH OF A PROBLEM IS EACH OF THE FOLLOWING AT THE LOCATION WHERE YOU LIVE? If you live on-base, answer for the base, If you live off-base, answer for that community.

FOR EACH ITEM BELOW, MARK IF IT IS:	បerlous Problem	Somewhat of a Problem	Slight Problem	Not a Problem	Don't Know
Drug Use	0	* 2	· : -	0	· <u>·</u> ·
Alcohol Use	•••		•	•	
Crime	0	:.:	•5	C	೦
Racial Tension	٠.				
Child Abuse	C	2.4		٠.	. •
Spouse Abuse					
Other Family Violence		• .		**	٠.
Rajes					
Juvenile Delinquency	Ċ	. ,		<i>:</i> ;	

satisfaction/dissatisfaction with each issue	*	•			•	
	Very	Satisfied	Neither	Dissalis-	Very	
For each Item, mark If you are:	satisfied •		salisfied nor dis-	fled	' dissalis- fied	
	•		satisfied		•	
orsonalt Freedom Establish	CHEST CHAS	R4 27772	27.77		20073	
Acquaintances/Irlendships	C C	O C	O	0		
Work group/co-workers #4F445355		CONTRACTOR OF THE PARTY OF THE	_	880E	ROTE OF	
Assignment stability	0	O	0	0		,
ayancallowances		PAUGER	3820 de	1450 P. 1450	3.00 m	
Environment for families		0	0	O		
requency of moves	25.25.025.02 25.25.025.02	PERSONAL PROPERTY AND ADDRESS OF THE PERSONAL PR	Single States			
Retirement benefits	3555					
and the second section of the second section is a second section of the second section of the second section is a second section of the			·O			
Opportunity to serve one's country	: www.	222			~~-	
Satisfaction with current job	**************************************	O.	- C	0	O.	
romotion opportunities		3, 9,		(o · · ·		
lob training/in-service education	C) Contractic	ensus estates estates Co	C) Sections: White	O	<u> </u>	
ob security					29.01	
Vorking/environmental conditions	ods eddingdyddi	O `	0	. 0.	: O	
ost service educational/benefits_WEAP)					E36	
Medical care		0	0	0	0	
					AFFOR	
Commissary services	0	0	0	0	0	
	· · · · · · · · · · · · · · · · · · ·	•				
Now, taking all things together, how satisf	led are you					
with the military as a way of tife?	,					
		•				
•						
O , Yery Dissatisfied		•••				
O Dissatisfied	•	•				
Somewhat Dissatisfied						

O Neither Dissatisfied nor Satisfied

O Somewhat Satisfied

SatisfiedVery Satisfied